

## SNOWFALL.

Snow occurred generally over the New Mexico area, and in the Colorado area to the west of the 104th meridian. In the Colorado area the average was 14 inches, and in the New Mexico area, 6.6 inches.

## RIVERS.

Low water prevailed in the upper reaches of the Arkansas River proper during the month, but flood stages occurred in some of the tributaries in Kansas and Oklahoma. Corn and wheat crops in the lowlands along the Neosho River in Kansas were overflowed, in some localities killing the wheat and necessitating the replanting of corn, or abandoning the crop for the present year. Flood stages were reached in the lower Arkansas River in the early part of May, but no damage was reported.

High stages occurred in the lower White River during the first decade.

No flood occurred in the Red River, and, except for a few slight rises, the river fell during the month.

The Ouachita River was above flood stage at Monroe throughout the month, with the highest stage, 45.5 feet, on the 14th to 16th, inclusive.

The Mississippi River below St. Louis fell generally after the 11th. The highest stages, in feet, recorded during the month, were as follows: Memphis, 38.9, on the 10th; Helena, 50.6, on the 1st; Arkansas City, 51.9, on the 1st; Vicksburg, 48.4, on the 7th; Natchez, 51, on the 11th; Baton Rouge, 43.8, on the 11th and 13th; Donaldsonville, 34.8, on the 11th; and New Orleans, 21.5, on the 11th and 13th (22 feet at 2 a. m. of the 11th). Below Vicksburg, these were the highest stages ever recorded, and verified the prediction of the Weather Bureau issued April 4, 1912.

## TORNADOES.

*Tornadoes in Kansas, May 3, 1912.*—Several tornadoes occurred in the Arkansas Valley on this date. About 4 p. m., a tornado passed over Offerle, in Edwards County, moving from the southeast toward the northwest. Seven persons were injured and about \$10,000 worth of property destroyed. Twelve tornadoes occurred in Pawnee County, one of which was destructive. About 6.50 p. m., a tornado passed over Larned, moving from the southeast toward the northwest. Two persons were injured and the damage to property in the town amounted to \$40,000. A tornado also occurred in Barton County, appearing on the farm of Mr. Mansolf, about 7.30 p. m. All the buildings on the farm were destroyed, and a man was carried 75 yards and dropped in an alfalfa meadow, breaking both bones in his right leg below the knee.

*Tornadoes in Oklahoma, May 27, 1912.*—A tornado occurred in Kay County, a few miles north of Blackwell about 5.20 p. m. The storm moved from west to east and had the pendant, funnel-shaped cloud. One person

was killed and the property loss was estimated at \$10,000. At 5.30 p. m., a severe local storm occurred at Newkirk, Kay County, killing one person and damaging property to the amount of \$3,000, most of which was caused by hail, which broke plate glass. A well-developed tornado passed over Skiatook, Tulsa County, about 8.30 p. m., moving from the northwest to the southeast. The pendant, funnel-shaped cloud was present, and the path of greatest destruction was about 200 yards wide. Skiatook is about 80 miles southeast of Blackwell, and it is not probable that this was the same storm which passed over the latter place earlier in the afternoon.

## UNUSUAL HAILSTORM, WICHITA, KANS.

[By RICHARD H. SULLIVAN, local forecaster.]

The weather became threatening in the western horizon about 3.30 p. m. May 24, 1912, and thunder was first heard at 4.44 p. m., becoming very heavy at short intervals between 5 and 6 p. m., with a remarkable display of lightning. Fitful showers occurred at times, and hail began falling with rain at 4.55 p. m. In the southern and western parts of the city the hailstones ranged in size from that of peas to small marbles; in the northern and eastern sections the sizes ranged from that of peas to dimensions larger than a large hen-egg. One stone, slightly oval, found by the official in charge in his back yard at Fairmount, measured 3 inches in diameter and was 2 inches thick; its longitudinal circumference was 9.5 inches. This is the largest hailstone that I have seen during 24 years of observations, and is comparable only with one found by the writer during the great hailstorm of September 6, 1911, which measured 9.25 inches in circumference. Another one, perfectly round, was 2 inches in diameter. Three of the largest stones found, when melted made 5.5 ounces of water. This class of hailstones was composed almost wholly of snow, in lumps or patches, the intervening layers of ice being very thin. Another stone, found in the same neighborhood by Prof. Wadleigh, of Fairmount College, measured 10 inches in circumference. Another large stone, a sort of snaggy oval, found by Mr. H. I. Ellis, of the Ellis Construction Co., living eight blocks north of the station on St. Francis Avenue, measured 7.75 inches in circumference and weighed 4 ounces; it was composed of alternate layers of ice and snow. These large hailstones and those ranging in size from ordinary marbles to 1 inch in diameter were comparatively few. The path of heaviest hail extended from northwest to southeast, outside of the general greenhouse district, and was about 3 miles wide. Comparatively little damage was done.

The thunderstorm appeared to concentrate south and southeast of the city toward nightfall, and distant, rumbling thunder was heard until 10 p. m. Later reports show that heavy rains and washouts occurred at neighboring towns and in the region south and southeast of Wichita.